FAA AVIATION NEWS

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COVER

Mexico is a land of wonders—
and wide, lonely spaces.
For safe flying south of the border,
see page 8.

FAA AVIATION NEWS

DEPARTMENT OF TRANSPORTATION / **FEDERAL AVIATION ADMINISTRATION** VOL. 6 NO. 13

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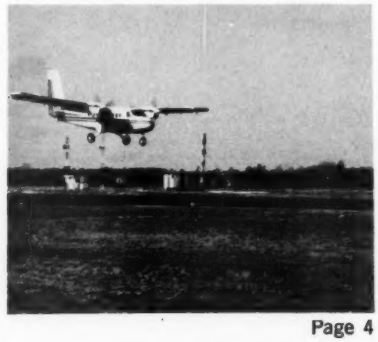

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William F. McKee, *Administrator, FAA*
David D. Thomas, *Deputy Administrator*

Charles G. Warnick, *Director*, Office of Information Services
Lewis D. Gelfan, *Editor*. Abner B. Cohen, *Art Director*

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VOLUME 6 ISSUE 13 SHOULD READ VOLUME 7

ISSUE 1.

Airport construction planning funds are not restricted by deadlines governing FAAP funds.

Available year around

Airport Planning Funds

Sponsors of general aviation public airports are encouraged to apply to the Federal Aviation Administration for specific grants covering *advance* airport planning and engineering studies leading to expansion or construction of new airports.

Requests for such aid, usually on a 50-50 matching basis, are not subject to scheduled deadlines for the Federal Aid Airport Program, but may be submitted any time in the year. Thoughtful advance planning may avoid many of the economic and other social problems which have troubled some airports constructed on the nearest available acreage, FAA believes.

Financial assistance is available not only for preparing airport layout plans, but also for preparing specifications and engineering cost estimates needed to budget overall airport costs. To be eligible for a grant, the airport project must be identified in the National Airport Plan—a five-year projection of national airport needs updated each year by FAA.

The advance planning grants are intended to assist smaller airports, and are not available to large or medium air traffic hubs—those which accommodate 0.25 per cent or more of the national total of enplaning airline passengers.

Furthermore, the advance planning grant is offered only to airport sponsors who indicate their intention to begin airport construction within three years after acceptance of Federal aid.

Non-eligible Planning

While all advance airport planning proposals must be consistent with existing local plans for area development, they may not include "comprehensive planning" as defined in the Department of Housing and Urban Development's 701 Program for urban planning assistance. The 701 Program assists in planning for general land use, including such studies as the relationship of airports to other land uses, surface transportation, residential area, etc. Such studies are not eligible under the FAA advance planning and engineering program.

The minimum grant in this program is $1,000. The airport layout plan must show all proposed major development, including construction not eligible for Federal matching grants. However, any plans and specifications included in the application need only cover eligible projects.

Typical projects eligible for aid are: land acquisition for new airports or to clear airport approaches or to enlarge an existing airport's runways, taxiway and aprons; and installation of airport lighting. Grants do not cover construction of terminals, hangars or esthetic improvements. The airport must be publicly owned or sponsored.

Acceptable Services

The sponsor may select a consulting firm or have the advance planning and engineering services performed by sponsor employees. These services may include:

(1) Engineering surveys, including reconnaissance and comparison of alternative sites for selection of an airport site and runway orientation; predesign topographic and soil surveys; and related tests, such as tests of existing pavement strength, that may be necessary to determine the need for pavement improvement or to develop a new or revised layout plan.

(2) Cost estimates with evaluations and recommendations for stages of construction or alternative designs.

(3) Related reports covering design and relationship of the project to development plans for the area.

(4) Drawings and specifications necessary for the particular advance planning and engineering proposal.

Interested sponsors are invited to contact the area offices of the Federal Aviation Administration. Names and addresses of appropriate FAA personnel for all localities, plus additional details on the grant program, are found in FAA Advisory Circular AC 150/5100-4 "Airport Advance Planning and Engineering," available free, on request, from the Department of Transportation, TAD 484.3, 800 Independence Avenue, S.W., Wash., D. C. 20590.

Two other FAA advisory circulars of interest to airport planners, also available free at the same address, are: AC 150/5050-1 "Airport Planning as Part of Comprehensive State Planning Programs," and AC 150/5070-2 "Planning the Metropolitan Airport System." ■

Twin engine STOLs, like the "Otter," are in common use among scheduled air taxis for urban commuting.

Short Take Off ...Landing

By James Woodall

The specific airfield requirements for short takeoff and landing (STOL) aircraft are being studied in a current program at the Federal Aviation Administration's National Aviation Facilities Experimental Center near Atlantic City. This program is the first effort to assemble basic data fundamental to the design of STOL airports and to the operation of STOL aircraft.

Although numerous heliports for vertical lift aircraft now exist in the United States, there are no airports built to take advantage of the short takeoff and landing airplane's ability to operate in urban areas without immobilizing large areas of expensive real estate as runways and cleared areas.

Phase I of the STOL Study at NAFEC will test several different aircraft to work out criteria for obstacle clearance, glide slope angle, operational weather minimums and operational field lengths. Field testing began in February and will continue into early summer. By that time, hundreds of takeoffs and landings will have been flown in specially instrumented aircraft representing the small and medium class of STOL airplanes, carrying less than 20 passengers. Later tests are planned for larger capacity STOLs.

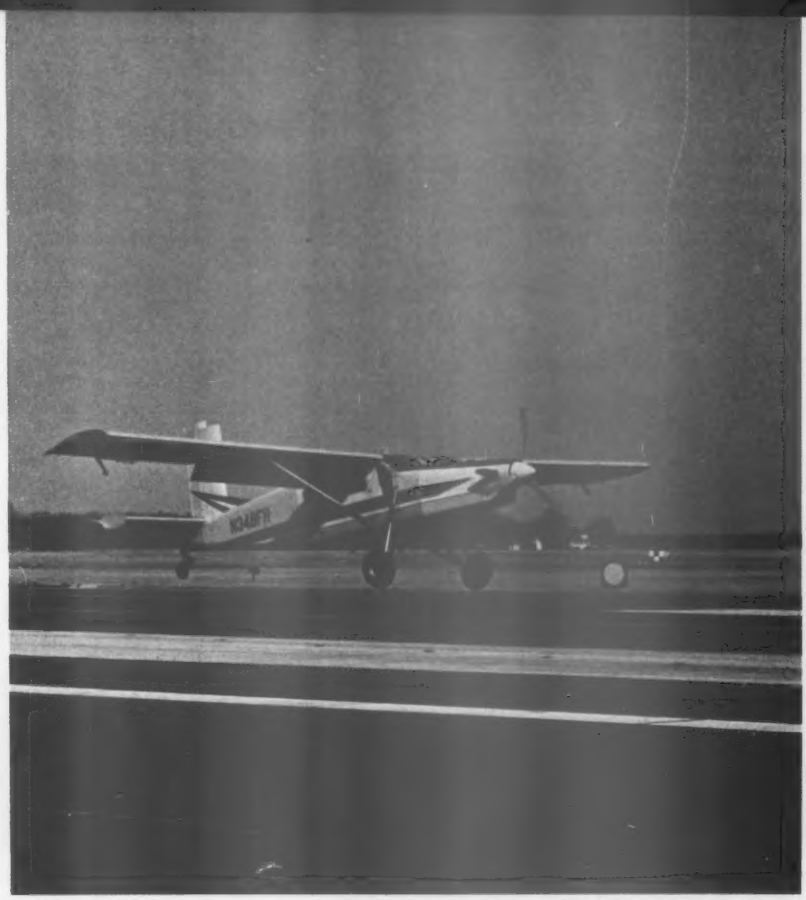
In the current phase of the program, FAA is concerned only with the category of aircraft capable of operating on short runways because of their low wing loading and reasonably high power loading—i.e., they have a great deal of wing area relative to their weight, along with enough power to enable them to climb or descend sharply at a relatively low airspeed. In a later phase, FAA will investigate the so-called "true" STOL aircraft which use powered lift augmentation and control throughout their landing and takeoff maneuvers to maintain precise control of steep angle flight paths.

The low wing loaded airplanes, such as the Fairchild-Hiller "Turboporter" or the DeHaviland twin "Otter", have demonstrated their ability to operate out of small airfields, and even to use rough makeshift airstrips in the countryside, but their usefulness as potential urban commuters has not yet been shown. One reason is the lack of knowledge needed to design STOL airfields; another is the absence of a clear definition of STOL aircraft that could be reflected in appropriate safety standards.

All of the test flight approaches at NAFEC are conducted under simulated instrument conditions, with the pilot in command using a hood until he reaches a decision height of 200 feet. Three different pilots fly each aircraft, under a variety of programmed conditions, in order to assure a

The McDonnell "Breguet," a four-engine, 50 passenger STOL, was tested earlier at Dulles International Airport.

The ability of STOL aircraft to land and take off from dirt fields without runways has already been proven.



Fairchild-Hiller's "Turboporter" is typical of small STOLs which could operate out of commuter airports located within metropolitan areas.

statistically accurate result.

The approach angle, for example, is varied from six to nine degrees (2.59 is the standard instrument approach angle). The pilot uses a glide slope indicator on his instrument panel to guide him down, while a camera in the cabin of the aircraft records all flight data by filming a duplicate instrument panel. Observers on the ground are also able to monitor the approach in the Airborne Instrument Laboratory (AILS) shack, where the signal for the correct glide path is generated.

The flight characteristics under study include:

1. Maximum tolerance and various wind directional components.
2. Angle of descent.
3. Airspeed during descent.
4. Effect of brakes and reverse thrust on landing distance.
5. Touchdown and landing roll dispersion.
6. Maximum offset angle permissible for landing from 200 foot decision height.

The aircraft are ballasted with lead weights to achieve the maximum gross weight allowable and critical center of gravity. The acceleration (G-load) of each touchdown is measured and recorded. Two field-based theodolites provide position data for the test aircraft. About 50 hours of flight time is scheduled for each aircraft.

During the Program, downwind landings as well as upwind are flown to examine the capability of the aircraft under limited runway conditions. White slashes mark out a 200 foot section of the runway, which provides the pilot with a touchdown target area.

All of the recorded data is sent to FAA's Aeronautical Center at Oklahoma City for computer analysis. A formal report of the STOL study, not expected for about six months, will be announced in these columns.

STOL aircraft have proven their value in military and rescue operations of all kinds, where cargo or personnel had to be brought quickly to an area with extremely limited landing facilities. In the commercial carrier field, however, where urban areas are served, the absence of specialized STOL airports has denied air travelers the opportunity to utilize such aircraft for speedier connections with major airports or for more convenient commuting.

In the future development of urban airport facilities, consideration has been given to satellite airports, perhaps suitable for helicopter as well as STOL operations. Such airports might help solve the problem of speedy connections to hub airports, or might be used primarily for commuting between large cities, thus relieving the traffic pressure on the large airports which serve transcontinental and transoceanic pessengers.

The recent rapid growth of the scheduled air taxi industry and the trend toward increased mail carrying by these short haul aircraft provide a potentially expanding market for STOL airplanes.

Before effective planning can take place, much more must be known about the flight characteristics of STOL aircraft, operating with a maximum load under minimal weather conditions. The current study at NAFEC is the first step in acquiring this information. It will provide us with baseline data which will be evaluated by Flight Standards Service in the process of establishing the airport and safety requirements for this category of aircraft. ■

James Woodall, FAA Aircraft Development Service

Above—Engine should be shut down when passengers board or disembark. Below—Unchocked plane with engine running is a hazard to unwary passenger.

accidents

—Who Needs Them?

Aircraft cabin entrances can be fore or aft of the propellers. Aircraft crews should not assume that every passenger is familiar with the plane.

It was her first flight, and the middle-aged passenger was so thrilled she decided to remain aboard the plane for another brief flight to a nearby city. Her husband had disembarked, planning to drive to the town where he would meet the plane and pick her up.

Impulsively, the woman changed her mind and left the twin-engine aircraft, intent on joining her husband who by now had reached the parking lot and was waving to her. She stepped to the ground, lowered her head into the prop blast, ducked under the wing and blundered into the whirling propeller of the left engine. She was killed instantly.

She was one of three persons, all women, who were killed by propellers in 1967. All had walked into the propellers of the planes in which they had been passengeres only moments before. The pilots had not cut the engines before allowing their passengers to leave the aircraft.

The idling engine is the killer. In one of the three fatal accidents, a young woman left the cabin of a single engine, low wing plane and apparently leaped from the leading edge of the wing to the ground. She came into contact with the spinning propeller and was fatally injured.

Ducking under the wing after she left a high wing monoplane cost the third woman her life. She went forward, headed for the passenger gate, her head lowered against the prop blast, and with one hand clamping down on her hat she walked unknowingly into the turning propeller.

Annual Toll

In addition to the three who died in propeller accidents in 1967, there were 25 seriously injured. The toll in 1966 was three fatalities and 13 serious injuries. In the first three months of 1968, two persons were struck and seriously injured by propellers in air carrier accidents, and another barely averted death or major injury after he was drawn into a jet engine.

Most of the accidents occured on general aviation airports, a favorite rendezvous for holiday sightseers. Sunday at the airport still holds the same fascination for thousands of Americans as it did when barnstormers swooped into town for a weekend of parachute jumping, wing walking, dazzling feats of airmanship—and passenger hopping.

Today, with some 9,276 airports in the U.S., Americans have no shortage of places to go to see airplanes fly. There is no dearth of planes to look at, either. At last count, there were approximately 115,000 general aviation planes registered with FAA, and the number is growing. In many places spectators are able to walk up to them, touch them, and peer into the cabins and cockpits.

The barnstormers have largely disappeared, but local sightseeing flights are a bigger attraction than ever. Both commercial and private pilots often crowd as many such hops into a day as possible, saving time in some cases by not bothering to shut down engines while passengers are hopping in and out. Passenger-hopping poses a special safety problem because in many instances it is a person's first flight. Little time is available for passenger briefing, and a high degree of excitement is almost always present, even among so-called seasoned passengers.

The pilot must use his experience and expertise to make up for what his passengers lack. The safe operation of his aircraft, and the security of his passengers are his re-

sponsibilities. (Federal Aviation Regulations 91.3 (a) "Responsibility and Authority of the Pilot in Command"; 91.9 "Careless or Reckless Operation"; and 91.10 "Careless or Reckless Operation Other than for the Purpose of Air Navigation" (Careless or reckless operation on any part of the surface of an airport used in air commerce.) define pilot responsibilities).

Pilot Responsibility

Most propeller accidents are avoidable if pilots in command exercise fully the responsibility given them by law. At the negligible expense of a few minutes of time, an extra ounce of fuel, and a modest drain on the battery to restart the engine, a pilot should shut his engine down whenever loading or unloading passengers. This completely eliminates any chance for a propeller mishap. And, it has the added advantage of permitting passengers to approach and depart from the plane without walking through a small tornado, complete with miscellaneous dirt and debris. Persons half-blinded by grit in their eyes may wander into danger zones.

The prudent pilot fully briefs his passengers on the nature of the plane, particularly the propeller, explaining that even a still prop cannot be considered a "dead" prop. This instruction is especially important when taking up passengers on their first hop. Safety briefing is also valuable for air taxi passengers, and for a growing group of air travelers—business men using the newly acquired company plane. Frequently these groups approach the plane preoccupied with the business they intend to transact enroute and at the end of the trip. In the absence of paid attendants, the pilot must look after the safety of his passengers.

Under certain circumstances, rotating propellers are difficult to see. This is especially true at night, or when visibility is generally bad because of rain, snow, or heavy ground mist and fog. Even on a bright day, a moving propeller is hard to see at certain angles. Adding to the hazard are the normal airport noises which can drown out the sound of a nearby propeller and engine, as well as shouts of warning.

It is good practice for pilots to park their aircraft for passenger boarding and discharge so that they have a "natural" path to safety. Turning the tail toward the terminal or passenger area would be the safest course, since the approach and departure is away from the propeller. However, this is not always practical, and in some cases might be prohibited because of the possibility that prop blast could hurl debris at spectators. The next best course is to pull up parallel to the passenger area, so that a straight line, from plane door to passenger gate, is the naturally safe path.

Both of the propeller accidents recorded so far in 1968 involved turboprop aircraft. In early March, shortly after noon at a far-West airport, a military chartered flight was called back to pick up a soldier who had failed to board. As the aircraft reached the ramp, the man ran out to meet it and was struck by a propeller. The following night at an East coast airport, a newly hired equipment service man walked from the aft cargo compartment into the turning propeller of number 4 engine. Both men sustained grave injuries.

Turboprop Dangers

Turboprops are especially dangerous because they continue to windmill for a considerable time after the turbine is shut down. (In contrast, a piston engine stops *almost* instantly.) Even while turning slowly enough to count the revolutions, the prop still remains a lethal weapon. The slow turning prop is deceptive—not only is the dead weight of the propeller to be reckoned with, but also the high inertia stored in the still turning compressor and turbine wheels.

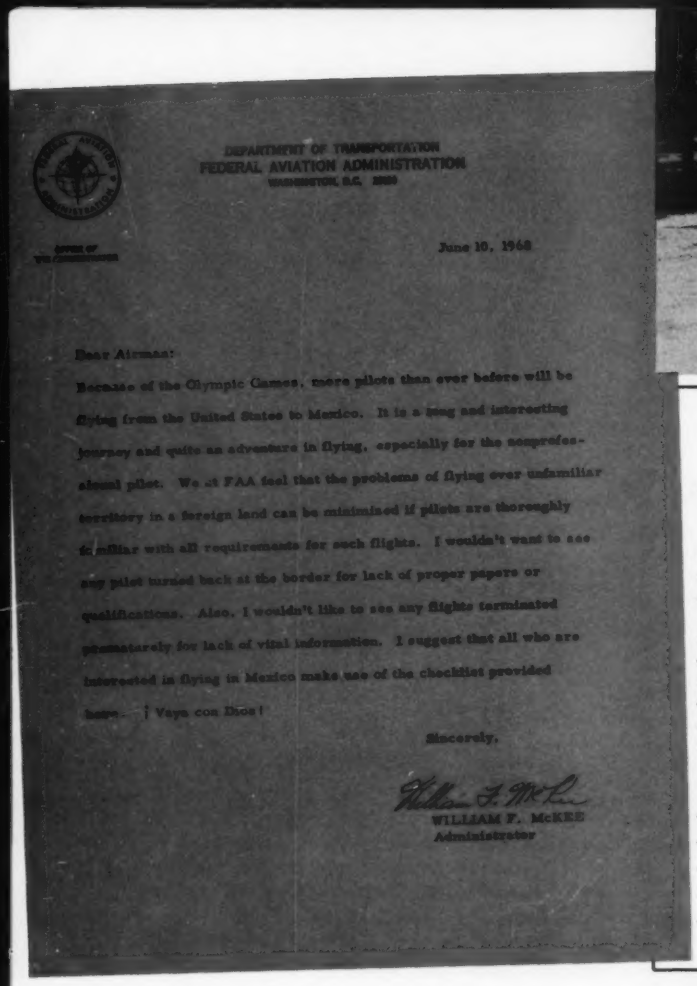
Additional danger lies in the blade angle. Usually, turboprop engines are shut down with the blades dead flat, or nearly so. This angle of pitch creates almost no warning sound.

Jet engines, including the "small" ones appearing in greater numbers in the general aviation fleet, are dangerous fore and aft. Big or small, the inlet and exhaust velocities are approximately the same in all jet engines. The danger area forward extends outward from the engine to about 25 feet in a fan-shaped pattern 30 degrees on each side from center.

Jet exhaust gases reach temperatures as high as 700 degrees, and even as far away as 75 feet, the temperature can still be 200 degrees in a swath ten feet wide. Dust, sand, small stones and other debris hurled by jet blast also present a danger. This is especially true of the smaller airfields used by business jets, and even more so on fields with dirt runways and ramps in poor repair.

Considering the number of hours flown every year by general aviation aircraft, propeller accidents are *statistically* low. But to the victim of a propeller accident, and his family, statistics are cold comfort. Alertness and good operating practices can cut the accident rate, and may eliminate it entirely. ■

Above—Inattentive strolling on the flight line is an invitation to an accident. Normal airport noises can drown-out the sound of an engine running nearby; light conditions can make turning propellers hard to see. Left—Keep an eye on the propeller when approaching or departing from plane. Turboprops, such as this one, carry lethal power even when windmilling at very low rpm.



DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C. 20590

OFFICE OF THE ADMINISTRATOR

June 10, 1968

Dear Airman:

Because of the Olympic Games, more pilots than ever before will be flying from the United States to Mexico. It is a long and interesting journey and quite an adventure in flying, especially for the nonprofessional pilot. We at FAA feel that the problems of flying over unfamiliar territory in a foreign land can be minimized if pilots are thoroughly familiar with all requirements for such flights. I wouldn't want to see any pilot turned back at the border for lack of proper papers or qualifications. Also, I wouldn't like to see any flights terminated prematurely for lack of vital information. I suggest that all who are interested in flying in Mexico make use of the checklist provided here. ¡Vaya con Dios!

Sincerely,

William F. McKee

WILLIAM F. McKEE
Administrator

FAA MEXICO CHECKLIST

___Leave flight itinerary with someone

PERSONAL DOCUMENTS

___"Use permit"
___RAMSA card
___"General Declaration" (Form DGAC-40 obtained at point of entry)
___Flight plan
___Tourist card
___Vaccination certificate
___Proof of citizenship
___List of articles in aircraft
___List of contents of luggage

AIRCRAFT DOCUMENTS

___Registration of plane (Form 500)
___Airworthiness certificate
___Radio license (station license)
___Weight and balance sheet
___Aircraft maintenance manual

PILOT DOCUMENTS

___Pilot's license
___Medical certificate
___Personal radio license
___Logbook

GENERAL

___Proof of insurance coverage in Mexico
___Confirmed hotel reservations (Pilots need rest)
___Supplemental oxygen
___Survival kit
___Extra tire
___Extra oil and funnel
___Tiedown ropes, spikes, hammer
___Chamois
___Charts & Publications

Flying Safely to Mexico

See back cover for airports of entry map.

The following tips are offered to make your flight into Mexico safer and more pleasant:

- File a flight plan with an FAA flight service station on or near the Mexican border (mandatory). If you file with a FSS not adjacent to the border, advise the nearest border FSS of your crossing time.
- Leave a copy of your itinerary with someone directly concerned with your flight and keep him apprised of your progress.
- Build-up of clouds and high turbulence in mountainous areas during mid afternoon make morning flying more desirable.
- Do not overload. Remember high altitudes and "density altitude" performance.
- Cooperate with Mexican officials. Mexican law requires flight plans: file them!
- A pitot tube cover is advisable while on the ground to protect against insects.
- Because parts and labor may be difficult to obtain, have your plane in good mechanical condition before entering Mexico.
- You will have to clear Mexican Customs and Immigration upon entering Mexico and before departing Mexico on your return trip. Exact requirements are subject to change, so doublecheck the latest procedures when you file your flight plan.

MEXICO—GENERAL INFORMATION

Time—Central Standard Time is used throughout Mexico with the exception of some northern sections along the Pacific coastal area, where Mountain or Pacific Standard Time is used.

Language—Spanish is the official language of Mexico. English is spoken or understood in many places in the country.

Currency—The Mexican monetary unit is the "peso," divided into 100 "centavos." In Mexico the "$" denotes a price in "pesos," not dollars. The current rate of exchange is 12½ pesos for one U.S. dollar.

DEPARTING—U.S. TO MEXICO

U.S. Requirements

Private aircraft on purely business or tourist flights, and not carrying passengers for hire or cargo, do not require a U.S. Customs Clearance. For aircraft used for other purposes or for privately owned modified military aircraft flights into Mexico, you should refer to the International Flight Information Manual (IFIM).

You may depart from any airport in the U.S., but you are encouraged to depart from an airport along the U.S./Mexican border as it will facilitate flight plan filing and provide you with current information and advice in a personal briefing.

Notice of arrival for any of the Mexican Airports of Entry may be included in the flight plan.

When taking valuable personal items, such as camera, binoculars, etc., into Mexico, it is advisable to declare such equipment in writing with U.S. Customs prior to departing the U.S., in order to avoid delays when returning home (Customs Bureau Registration Form No. 5540). Firearms present a unique problem; make sure you know Mexican Regulations regarding them (see IFIM).

Mexican Requirements

Air traffic rules in Mexico are basically similar to the U.S. Federal Aviation Regu-

lations and follow the Rules of the Air, Annex 2, of the International Civil Aviation Organization (ICAO) except for differences in Flight Plans, Arrival Reports and Visual Flight Rules.

- A written flight plan is ***required*** for all flights in Mexico.
- IFR flight plans are required for all night flights.
- Mexico recommends an IFR certificated co-pilot on night IFR flights.
- Prior notification of arrival is required and may be included in the flight plan providing you file *more than one hour* prior to ETA at Mexican Airport of Entry.
- When estimated flying time from the U.S. airport to the Mexican Airport of Entry is *less than one hour,* the pilot himself should notify Mexican Custom officials.
- Upon entering Mexican airspace, establish radio contact with the Mexican airport nearest to the point at which you cross the border.
- Establish and maintain radio contact with communication stations or control towers.
- *Close your flight plan* as soon as possible after arrival at your destination airport. *THIS IS IMPERATIVE!*
- Always carry a carbon copy of each flight plan with you in Mexico and when leaving Mexico for U.S., as proof that you did file it in conformance with Mexican regulations.
- If you take off from a Mexican airport that does not have communication facilities, you must file a notice of arrival form (cancellation of flight plan) upon arrival at a point where communications do exist.
- Visual Flight Rules—Even when visibility is greater than three miles and regardless of whether the flight is outside or within control zones, areas, or airways, all VFR flights above 2,000 ft. shall be at altitudes according to the magnetic course being flown.

Customs and Immigration

To expedite Customs clearances, it is suggested you prepare and keep on your person at all times (1) a list of all articles carried in the aircraft, and (2) a separate list indicating the entire content of each piece of baggage.

You must file a General Declaration Document (Form DGAC-40) at the Airport of Entry for private aircraft being brought into Mexico. The pilot must sign the form and submit it for approval to the Mexican Customs, Immigration and Health Authorities. Keep this document for purposes of verification at other airports, and surrender it only upon leaving Mexico.

You may also be required to produce evidence of compliance with aircraft airworthiness and registration.

If you do not own the aircraft and the owner is not aboard, have a letter from the owner authorizing you to fly the aircraft for this particular flight ("use permit"). Include in this statement the duration of your stay in Mexico.

Private aircraft exceeding 27,500 lbs. gross takeoff weight (except private aircraft exceeding 27,500 lbs. carrying 14 passengers or less), and all aircraft other than private require a permit *in advance*. Application for this permit must be made to the Mexican Director General of Civil Aviation.

Passports are not required for tourists visiting only in Mexico. Passports are required for visits that are for business purposes. Proof of citizenship, such as birth certificate, voters registration card, etc., should be carried by the pilot and all passengers at all times.

All that U.S. citizens require in Mexico as a *tourist* is a tourist card, which may be obtained at no charge at any Mexican Consulate, Mexican Government Tourism Office, or Mexican Immigration Office at the border. Proof of U.S. citizenship (preferably birth certificate) is required. Check with these Mexican authorities prior to your trip for full details.

Fees and Services

There is no charge for the Entry and Departure Declaration. However, there is a fee at the smaller airports if the clearance officials have to be called from town. At Mexican Airports of Entry, Customs officials are usually on duty during periods when international air carriers are clearing airports concerned. At other times, it may be necessary to make special arrangements for such services at added costs.

Navigation, communication and weather services are charged to the user by Radio Aeronautics Mexicana, S.A. (RAMSA).

Aircraft weighing not more than 11,025 lbs. gross may obtain a RAMSA card, good for 30 days, for $6.25 U.S. RAMSA cards may be obtained from:

- RAMSA
  Melchor Ocampo No. 469-101
  Mexico 5, D. F. Mexico
- Mexican Airports of Entry (check beforehand)
- In the U.S., from international airports in Tucson and Brownsville.

For individual RAMSA service charges, consult the IFIM.

Airports may charge a nominal landing fee, depending on the weight of the aircraft and the classification of the airport.

RETURNING—MEXICO TO U.S.

When leaving Mexico, your final point of departure must be one of the Mexican Airports of Entry/Departure. No subsequent landing in Mexico (except emergency) enroute to the U.S. is permitted. The same crew and passengers who were on board when entering Mexico must be on board when departing Mexico unless a change in the crew or passengers is approved by the commanding officer of both your Airport of Entry and your Airport of Departure.

You must file a flight plan to your U.S. Airport of Entry. Be sure you get a thorough weather briefing. Advance notice of arrival to U.S. Customs may be included in the flight plan.

Your original General Declaration Document and Tourist Card must be turned in to the Customs and Immigration Officer at the Airport of Departure when departing from Mexico.

U.S. Requirements

The airport of first intended landing in the U.S. may be either an International Airport (Airport of Entry) or a Landing Rights Airport listed in the IFIM and AIM.

Permission to land at an International Airport is not required from U.S. Customs *although advance notice of arrival must be given*. For landing at a Landing Rights Airport, *both* an application for permission to land and advance notice of arrival are required and should be transmitted in advance to the U.S. Customs Officer in charge at that airport. When the destination is a Landing Rights Airport, and a request to transmit arrival notice to U.S. Customs is included in the flight plan, such notice will be treated as application for permission to land. At International Airports or Landing Rights Airports where flight notification service is not available, or if the flying time from the Mexican Airport of Departure is *less than one hour,* the pilot must notify U.S. Customs directly.

U.S. Customs inspection service is free during the hour the Customs Officer is at the airport. These hours are normally from 8:00 a.m. to 5:00 p.m. Monday through Saturday, except on a Federal holiday. Overtime, at various rates, will be charged at other times.

HINTS TO PILOTS

- Fuel in Mexico is sold by the liter (about ¼ U.S. gal.).
- Hangar space is scarce in Mexico; provide your own tie-down equipment.
- Carry your aircraft maintenance manual. Maintenance work obtained in Mexico must comply with the rules in FAR 91, meet the required standards, be approved by a person with a U.S. certificate, and be properly recorded.
- Carry a chamois for fuel filtering.
- Because of high terrain in Mexico, frequent cloud buildup, and the possibility of moderate hypoxic conditions, equip your plane with supplemental oxygen.
- Drink only water that is bottled or boiled and only foods that have been cooked.
- Be sure you obtain and have on your person at all times an *"International Certificate of Inoculation and Vaccination."* This certificate should be no more than three years old and ready for inspection

upon entering and leaving Mexico, and on return to the U.S. Consult your doctor for details.

• Be sure your insurance policy includes *Public Liability Coverage* acceptable to the Mexican Government. Mexican law stipulates that if you are involved in an accident and a person, animal or thing is injured, whether your fault or not, you have automatically committed a felony. Without proof of valid Mexican insurance, you can be held until the authorities investigate. Carry proof of your insurance coverage at all times. In the event of an accident, report details to the commandant at the nearest Mexican airport. In addition, file a report as required by the U.S. regulations (IFIM).

EMERGENCIES

The U.S. and Mexican governments are presently developing a Search and Rescue program; details will be published in the IFIM. The latest information and changes will always be known at Flight Service Stations along the border—another good reason to visit one of these stations prior to crossing the Mexican border.

Wise pilots will carry a survival kit, which should include at least the following:

- Canteen of water
- Survival food
- Snake bite kit
- First aid kit
- Axe or machete
- Waterproof matches
- Knife
- Mirror
- Flares
- Blanket
- Flashlight
- Wax candle

AERONAUTICAL CHARTS AND PUBLICATIONS

The "International Flight Information Manual" (IFIM) contains foreign entry requirements, a directory of Airports of Entry, some operational data, regulations and restrictions, passport, visa and health requirements. Annual subscription: $1.25. Order from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

The same office publishes "International NOTAMS," issued weekly, supplementing the IFIM. Annual subscription: $3.00.

Charts covering Mexico are available for both VFR and IFR operations. Regardless of type of flight conducted, you should carry current issues of both types of charts covering your flight routes.

VFR Flights — Operational Navigation Charts (ONC) covering Mexico are H-22 (largely only Baja California), H-23 (northern part of Mexico), J-24 (south central part, including Mexico City), and J-25 (eastern part, including Yucatan Peninsula). These charts show ground detail similar to the WAC, are also 1:1,000,000 scale, and have a limited aeronautical overprint. The ONCs are published by the USAF and can be purchased for 50 cents each from the Director, U.S. Coast and Geodetic Survey, Rockville, Maryland 20852. During September and October 1968, by special arrangement the ONC noted above may also be purchased from the Coast and Geodetic Survey authorized aeronautical chart agents at the following airports:

Small seacoast airports will usually have adequate runway length, but limited services and communications.

Arizona: (Douglas) Bisbee-Douglas International; (Tucson) Tucson International.

California: (Calexico) Calexico International; (San Diego) Lindberg Field.

Louisiana: (New Orleans) New Orleans International.

Texas: (Brownsville) Brownsville International; (Dallas) Dallas-Love Field; (El Paso) El Paso International; (Houston) Houston International; (McAllen) Miller International; (San Antonio) San Antonio International.

The new Sectional Charts of the United States, which the U.S. Coast and Geodetic Survey is currently compiling, overlap some 50 miles into Mexico. Coverage of the border areas is expected to be available by the time of the Olympics. These charts will be available for 50 cents each from the C&GS at their Rockville address noted above and from their authorized agents at airports along the U.S.-Mexican border.

Pilots operating VFR are also advised to carry current radio navigation charts for frequencies, facilities, etc. while operating in Mexico.

IFR or Radio Navigation—There are several different kinds of charts with supplementary publications presently published. These are described below.

"Manual de Facilidades y Procedimientos de Navegacion Aerea" contains, in English, NOTAMS, aerodromes, radio navaids and control tower hours of operation, communications and navaids frequencies, airport directory and sketches, instrument approach plates, list of commercial broadcast stations, and aviation weather reporting stations in Mexico. Published by Informes Aeronauticos "Bernal," (address: Donato Guerra 1-609, Mexico 1, D.F. Mexico) the basic manual costs $10.00 and the monthly revisions and weekly bulletin service is $24.00 per year.

"DOD En Route Low Altitude Caribbean and South American Flight Information Publication" (C&SA FLIP) is issued every two months and is available from the U.S. Coast and Geodetic Survey (addresses below) on an annual subscription for $11.75. The August 15, 1968, issue will be made available for Olympic Games visitors on a non-subscription, no-revision basis for $2.25. The subscription includes en route low altitude radio facility charts and a supplement containing an airport and facility directory. The information is predicated on military use but can be used by civil pilots.

Instrument Approach charts for the C&SA FLIP are available on an annual subscription basis for $7.40. Also, by special exception, the August 15, 1968, issue will be made available for $1.50. Orders may be directed to the Director, U.S. Coast and Geodetic Survey, Rockville, Maryland 20852, and to their agents listed above (except at San Diego and McAllen) where the ONC is being sold.

"Jeppesen Radio Facility Chart Kit for Mexico" contains airways and airport information and navigation and approach and landing charts. Current only for the period in which your flight is to be made, it costs $13.00 from Jeppesen & Company, 8025 E. 40th Avenue, Denver, Colorado 80207.

Airports International produces two publications covering Mexico: "Airports of Mexico and British Honduras," price $9.50 and "Airports of Baja California," price $7.50. These publications contain individual photos 'of each airport, pertinent information about flying in Mexico and certain operational data, such as frequencies and navaids. An aeronautical chart covering these areas is also available. Write to Airports International, P.O. Box 23166, San Diego, California 92123.

Aviation Book Company produces a travel book on Mexico, "It's Fun to Fly in Mexico," price $4.95 (25¢ extra in California). It contains information on flight procedures, navaids and airport data, etc. Address: Aviation Book Company, 565½ W. Glenoaks Boulevard, P.O. Box 4187, Glendale, California 91202.

The Texas State Aeronautics Commission has available a booklet giving complete information for flights to Mexico, and the city of El Paso has produced colorful literature and a map of Mexico.

Pilot organizations—Members of pilot organizations such as AOPA, NBAA, NPA, etc., may also obtain valuable information through their organization headquarters. ■

CRASH LOCATOR BEACONS
—Should FAA Require Them?

These majestic Alaskan peaks could swallow a downed plane, leaving no trace. How much difference would a crash locator device make?

The Federal Aviation Administration is inviting comment from the aviation community on the advisability of requiring general aviation pilots to carry electronic crash locating signaling equipment on certain flights.

An advance notice of proposed rulemaking considers amending Part 91 of the Federal Aviation Regulations, making it mandatory for general aviation planes to carry crash locator beacons when flying over large bodies of water, mountainous terrain. or remote and sparsely populated areas.

The notice pointed out that the advisability of mandatory crash locating equipment has been an issue among pilots for a number of years, although very few general aviation aircraft are so equipped. The agency has resisted taking regulatory action because of the high cost of such equipment and the need for related airborne search instrumentation. Instead, FAA has been encouraging pilots to include crash rescue locators in their preparations for extended overwater and remote-area operations.

Agency tests of three different types of commercially developed rescue beacons conducted in late 1963 (AC 170-4, "Emergency Signaling Devices for Aircraft in Distress") in the Los Angeles and Salt Lake City areas suggested that locator beacons can successfully radiate energy to permit suitably equipped aircraft to identify and "home-in" on the transmittal signal.

Other tests have since been carried out under various terrain conditions, including forest, mountains and plains, and the snowy waste of Alaska.

The sheer magnitude of U.S. general aviation operations, with millions of flights logged annually, and the wide variety of terrain available within the continental borders of North America and its adjacent waters, underscores the difficulty of locating downed aircraft when their general locality is not known.

NO FLIGHT PLAN

In 1967, there were 15,000,000 itinerant general aviation flights from fields with FAA-staffed control towers. Of these, about 1,000,000 were on IFR flight plans, 2,000,000 were on VFR flight plans, but 12,000,000 were flights where no flight plans were filed. In addition, towers logged 17,600,000 local operations—that is, takeoffs and landings.

With only one in seven general aviation pilots filing VFR flight plans, the exact, hour-to-hour whereabouts of thousands of general aviation aircraft is sketchy at best. Where do these planes go, and by what route? Many remain in the vicinity of the home field; others fly familiar, well-traveled routes; very few crash or require the services of air and ground rescue parties.

But some do. Aircraft sometimes disappear completely, particularly while flying in the sparsely settled mountainous regions in the West and in Alaska. Thirty-one such planes, with a reported 57 persons aboard, have vanished without trace, during the 10-year period from 1957 to 1967, in FAA's Western Region (encompassing Arizona, California, Colorado, Idaho, Nevada, Oregon, Utah, Washington and Wyoming).

Nationwide, from 1962 through 1964, a total of 52 aircraft—27 private, 22 military, 3 commercial—were marked off as lost after extensive search failed to uncover any trace of them. From time to time, a hunter, trapper or hiker will stumble upon a long-lost crashed plane, with evidence indicating that the occupants had survived the crash, but died of injuries, starvation, or exposure. Had help arrived in time, there is reason to believe that lives might have been saved.

PLANES DISAPPEAR

Emergency landings, whether forced by mechanical failure, crew incapacity, or weather, are in most cases sudden, with little or no opportunity to select a landing zone. Planes can go down in densely wooded areas, mountainous country creased by deep valleys and canyons, snowy plains, broad lakes and oceans. The terrain is seldom at the pilot's option. Searchers must look for a disturbance of nature—a burned patch or a swath cut through trees or brush, dye markers or floating debris on water. But drifting snow can completely cover a crash site in a matter of hours, and it could remain covered until spring.

How effectively would a crash locator beacon contribute to rescue efforts? How do such devices work?

The crash locating device may be an *automatic crash position locator beacon*, an *emergency rescue beacon*, or an *emergency transceiver*. Basically, it is a small radio transmitter which emits a signal on either 121.5 MHz or 243.0 MHz. The device is compact, solid state with self-contained batteries, high impact resistance and emits a distinctive identifying signal.

The automatic crash locator beacon is "airplane" equipment, capable of being mounted permanently on the airframe in a bracket for easy removal and storage in life rafts. More sophisticated types are mounted so that on impact with the ground or water, the beacon is ejected a "safe" distance from the aircraft. This protects it from destruction by fire or explosion, or sinking with the airplane. Upon ejection, the antenna erects automatically and the casing is inherently buoyant. The beacon can be activated automatically on impact or immersion.

Much smaller and lighter is the *emergency rescue beacon*. This is intended as "personal" equipment. It can be carried on the person, in a parachute pack, life raft,

Above—Device in co-pilot's hand is a simple, inexpensive "search" meter used in recent FAA tests in the Washington, D. C. area. In the 14-flight series, pilots searching a 3,000-square foot area located the ground beacon in an average time of 55 minutes.

Right—Fully transistorized unit combines light and survival transmitter. Below—FAA technician points to D/F meter used in Alaska crash locator beacon tests last winter. Arrow swings left or right pointing in direction of locator beacon.

survival kit, or in a rack where quick access is easy. In most cases, it is activated manually, but can be designed with an automatic switch. Types intended solely for over-water application usually are equipped with water-activated batteries, while general purpose ones use rechargeable or one-time (dry) use cells.

Even though the emergency transceiver is capable of two-way voice communication, as well as emitting the distinctive emergency signal, it can be made into a remarkably small package. This is the type in wide use by military pilots as part of their personal flying gear. It is manually operated and can be carried in a flying suit pocket, parachute pack, survival kit, or life raft. Sets of this kind are sometimes dropped to survivors to expedite search and rescue missions.

The problem of suitable receiving instrumentation in general aviation aircraft is more complicated.

SEARCH EQUIPMENT NEEDED

Other than some Navy and Air Force planes, and those assigned to the Air Force's Aerospace Rescue and Recovery Service, and the Coast Guard, there are almost no aircraft equipped with the electronic gear needed to lead a search plane directly to the source of crash locator beacons.

Military aircraft use VHF/UHF direction finders and homers which are tied into the airplane's standard communications transceivers. They usually consist of a directional antenna array, a visual readout of signal strength and an electronic unit. A simple switch in the cockpit turns on the direction finders and homers.

Direction finders shows the direction to a beacon signal in relation to the flight path of the search plane, or to true or magnetic north. *Homers* show the angular difference between the direction of flight and the direction to the beacon signal. Homers are generally effective only with a signal coming from in front of the aircraft.

The normal UHF/VHF communications transceivers carried as standard equipment in many aircraft have a limited use in electronic searching for downed planes. Since most aircraft do not guard an emergency frequency, the general location of a downed plane would have to be learned indirectly, at least several hours after it was reported as overdue.

Once the distress signal is tuned in, sweeps may be flown over the search area while close attention is paid to the loudness of the signal. With this "build and fade" technique, the observer notes his position when the signal reaches maximum intensity or begins to fade. After a number of parallel, intersecting or other geometric patterns have been flown, the general location of the ground beacon can be determined within several square miles. At this point, low flying visual search planes take over.

Visual searching is fairly effective. According to USAF records, in 1966 there were 128 cases where the Air Force and the Civil Air Patrol joined forces to search for downed aircraft in the U. S. While 13 planes still remain unaccounted for, 115 were found, located visually for the most part by CAP planes with no specialized electronic equipment. In 1967, out of 118 searches for downed aircraft, 12 are still on the missing list, but 106 were spotted. Again, visual sighting by CAP planes accounted for the vast majority.

Objections to a legal requirement for crash locator beacons, even on certain flights, are easy to find. Cost ranks high on the list. Pilots are reluctant to tie up several hundred dollars in a piece of equipment that statistics show he will be unlikely to use. Inexpensive signaling devices can be made from a pocket mirror, a piece of shiny aluminum, or a wad of cloth saturated in engine oil.

OTHER SIGNALS AVAILABLE

Truck flares are cheap, readily available, and compact. Most surplus sales stores have a variety of flare guns and flares for sale at low cost. Smoke bombs, dye marker kits and pocket sized strobe lights are in good supply, all at a reasonable price.

Good as they are, none of these have *all-weather capability*. They must all be seen with the naked eye. An electronic crash locator beacon can penetrate the most adverse weather.

The individual's resistance to the added expense of locator equipment must be weighed against the chance of a life lost, or hours of needless suffering and privation. Equally hard to figure is the dollar cost of a search, in any of its forms—land, sea and air—because of the wide range of variables involved, the risks to the searchers, both in terms of personal safety and possible loss of or damage to their planes.

In the series of tests recently completed in Alaska, FAA employees were concealed in remote areas at gradually increased distances from "home base," equipped with locator beacons. Starting at a 10-mile range, the tests demonstrated that the beacon signal

Typical of the crash locator equipment available, this pocket-sized transceiver weighs only two pounds, has a 20-hour life.

could activate the D/F equipment aboard the DC-3 up to a distance of 26 miles. The beacon signal could actually be heard on the receivers at about 100 miles away.

The only difficulty encountered was with the batteries, which lost their efficiency in the frigid temperatures. Local remedies included keeping them warm with body heat, and conserving their energy by broadcasting at intervals. Continuing FAA testing will probe for other vulnerable components in rescue gear.

KEY QUESTIONS

In its advance notice of proposed rulemaking, FAA listed 14 questions it would like answered, including these:

—Under what kind of operations should such equipment be required, that is, over water, mountains, sparsely populated areas, etc.?

—What consideration should be given to climate, season of the year, and geographical area in designing a beacon?

—What kind of operations should be excluded from the requirement, considering many flights are of short duration or confined to specific areas, such as aerial spraying of crops?

—Should the device be activated by impact, water immersion, or manually, or a combination of these?

—Should the device be automatically or manually ejectable from the aircraft, and should it be floatable?

Comments should be submitted to FAA General Counsel by May 31, attention: Rules Docket, GC-24, 800 Independence Avenue, S.W. 20590. Make reference to Docket No. 8744; Notice No. 68-4.

—Frank J. Clifford

BRIEFS

• A FULL REPORT ON THE PILOT WARNING INSTRUMENTS symposium held last December at FAA headquarters in Washington is now available at $3.00 a copy. Included in the report of the meeting, which was convened to encourage industry to develop a low cost PWI (pilot warning instrument), are all technical papers presented, and the presentations made by participating organizations. The report, "Pilot Warning Instruments, Proceedings of a Symposium," (AD 666 122), may be purchased from the Clearing House for Federal Scientific and Technical Information, Springfield, Va. 22151. Both title and "AD" number should be used when ordering. Checks and money orders should be made payable to the Clearinghouse.

• MRS. BETTY J. MILLER, FIRST woman to solo the Pacific, was named Chairman of FAA's 32-member Women's Advisory Committee during its ninth semi-annual meeting March 25-27 at the agency's Aeronautical Center, Oklahoma City. She succeeds Dr. Dora J. Dougherty, Chief, Human Factors Group, Bell Helicopter Co. Mrs. Miller is a partner in Santa Monica Flyers. The Committee, which evaluates the effectiveness of FAA policies from the pilot's standpoint, was briefed on air traffic control in high-density terminal areas by FAA's Deputy Director D. D. Thomas, and participated in a teleconference with FAA Administrator William F. McKee speaking from his Washington headquarters.

• THE NEW FLIGHT SERVICE STATION at Reno, Nev., has a unique claim to fame—it is the only one in the U.S. equipped with solid-state radio channel equipment. Solid-state equipment is expected to drastically reduce maintenance costs as well as save on space requirements and installation time. The Reno FSS opened April 8, approximately one year after the new type of communications electronics had been installed at San Jose, Calif., Reid-Hillview Airport Control Tower. The concept for solid-state "instant" control towers originated in FAA's Western Region and led to the development of a new-style "L" tower. Power for communications equipment in the solid-state towers is supplied by a 12 volt DC system, which can be backstopped in the event of commercial power failure by tapping into the 12 volt ignition system of a car or truck driven to the tower base.

• WASHINGTON NATIONAL AIRPORT TOWER, the Denver Flight Service Station, and the Oakland Air Route Traffic Control Center were winners in FAA's "Air Traffic Facility of the Year Awards" competition for exhibiting "the highest degree of operational efficiency in rendering professional air traffic services" in 1967. Nineteen air traffic facilities in FAA's seven regions were finalists.

New generation of giant air carriers, like this Boeing 747, will impose special requirements on airports. The plane's great size, weight, and capacity makes planning urgent.

FAA AIRPORT PLANNERS GET SET FOR JUMBO JET ERA

With the first of the "big ones", the Boeing 747, scheduled to enter commercial service in the early '70s, FAA has taken a look at airport requirements to enable them to handle the giant airliners.

The design of the 747 intended it to operate from today's airports that can accommodate modern large jets. However, because of the 747s great size and weight, it may be necessary to modify some airports to assure safety, efficiency, and convenience.

In determining safe runway lengths for individual airports, FAA considers aircraft weight and performance, airport elevation and temperature, wet and slippery runways.

In some instances, to accommodate the 747, taxiways may have to be modified to permit sufficient clearance between the plane's wheels and the edge of the pavement.

Full details on what airports can expect when the king-size airliners appear can be found in Advisory Circular AC 150/5325-7, "Is your Airport Ready for the Boeing 747?" It may be obtained free of charge from the Federal Aviation Administration, TAD 484.3, 800 Independence Ave., S.W., Washington, D. C. 20590. Requests should be accompanied by a self-addressed label.

Air Traffic Activity Shows Rapid Growth in Decade

There were plus-signs on all the columns of figures totalling up flying activity in the U. S. in 1967, according to statistics in FAA's annual Air Traffic Activity report which went on sale last month.

The 49.9 million takeoffs and landings recorded by FAA's airport traffic control towers in 1967 are almost twice the 25.1 million chalked up back in 1957. The towers themselves showed a healthy growth in the last decade from 205 to 313.

The number of IFR aircraft handled by FAA air route traffic control centers doubled in the past decade, climbing from 8 million in 1957 to 16.6 million in 1967.

Flight service stations came close to doubling their activities in the past five years. In 1962 (first year in which complete FSS statistics were tabulated) they rendered 16.9 million services (flight plans, pilot briefings, aircraft contacts, etc.). In 1967, the number soared to 33.5 million.

The ranking of the three busiest FAA control towers remained unchanged in 1967. Chicago's O'Hare International, with 643,787 operations, held on to its title as number one, followed by Opa Locka, Fla. with 634,799, and Van Nuys, Calif., with 496,564. Ft. Lauderdale, Fla., with 495,874 operations, moved from 11th place in 1966 to fourth in 1967.

Others in the top ten busiest airports (those with more than 400,000 operations) are: Long Beach, Calif., 484,863; Los Angeles International, 482,774; Kennedy International, 446,867; Denver (Stapleton) International, 444,910; and San Jose Municipal, Calif., 410,311.

Among FAA's 28 air route traffic control centers (ARTCC's), four handled more than a million aircraft in 1967. Top of the list was the Chicago ARTCC with 1.4 million, followed by the New York ARTCC, 1.33 million; Cleveland ARTCC, 1.3 million, and Washington ARTCC 1.0 million.

The FAA Air Traffic Activity report for 1967 lists in rank order all activities at FAA airport traffic control towers in terms of total operations. The report may be obtained for $1.00 from the Superintendent of Documents, U. S. Government Printing Office. Washington, D. C. 20402.

V/STOL Experts Flock to Washington For Airworthiness Standards Meet

Tentative airworthiness standards governing flight, airframe, propulsion systems and equipment were the chief agenda items at FAA's four-day vertical and short takeoff and landing (V/STOL) conference in Washington early last month.

Some 200 experts from industry, the military, and government met at FAA headquarters to take a detailed look at the proposed FAA standards for transport V/STOLs which were prepared with industry cooperation.

Included among the conferees were delegates from France, the United Kingdom, West Germany, Canada and other foreign countries.

(A VTOL is any aircraft capable of vertical lift and hovering with respect to a fixed point in space under calm conditions. STOLs are mainly fixed wing types having lift augmentation.)

Under study at the meeting were proposed standards governing boundary layer control, lift fans, tilt wing turboprops, ejector jets, rotatable props and ducted fans, direct lift jets, deflected thrust devices, stowed or stopped rotors, and propulsive wings.

The need for new standards for "emerging" types of aircraft was one of the recommendations of FAA's Airworthiness Standards Evaluation Committee (ASEC), a group of 100 government, military, and industrial technical experts formed in December 1965 to study FAA's airworthiness regulations from the standpoint of their timeliness and applicability to modern aircraft.

FAA pointed out that the tentative standards for V/STOLs do not constitute a formal notice of proposed rule making, nor a basis for future certification of V/STOLs.

This XC-142C V/STOL, developed by Ling-Temco-Vought for the Armed Forces, might be the forerunner of V/STOL-type commercial air carriers.

FAA Aviation News welcomes comments from the aviation community. We will reserve this page for an exchange of views. No anonymous letters will be used, but names will be withheld on request.

• Plane Facts

Would you please identify the twin engine airplane on the cover of the February FAA *Aviation News*? Also, please tell me about its engines.

Harry L. Gephart, Lt. Col., USAF (Ret)
Las Cruces, N. M.

It is a Beechcraft King Air B90, powered with two PT6A turbine engines delivering 550 shaft horsepower. Its cruising and its maximum speed are the same—256 mph. It has a service ceiling of 27,200 feet, a maximum range of 1,466 miles and comes in 6- or 8-place configuration.

• Fowl Foul-up

"Fowled Air", about bird hazards to flight in the March FAA *Aviation News*, did a very good job of carving up the migrant goose. But I've had trouble locating the FAA advisory circular cited in the article.

Are you sure you didn't mean AC 150/5200-1, and not the number you printed?

Scranton, Pa.

Right you are. The correct number is AC 150/5200-1, "Bird Hazards to Aviation."

• Spin-proofing Students

It seems to me the FAA is contributing to the "stall spin" type of accident by its recommended flight training techniques. FAA's "Flight Training Handbook" (AC 61-21) states:

"During the demonstration and practice of stalls the heading should be maintained with the *liberal* (italics mine) use of rudder This should be emphasized to students, because if the nose is prevented from yawing it is obvious that an airplane cannot spin."

It is impossible to "spin" any modern light aircraft, in general use today, without the use of rudder. But if the instructor follows FAA advice he is, in reality, teaching the student spin entry technique. Am I correct?

Wenatchee, Wash.

No. It is quite possible to spin some airplanes in current production, as well as many older planes, with the feet completely removed from the rudder pedals.

We agree that in the great majority of stalls in most airplanes, successful recovery can be made without the use of the rudder. However, in training pilots, FAA believes strongly in procedures which will be effective in the greatest number of foreseeable situations.

In teaching the liberal use of the rudder to control the heading of an airplane in a stall, FAA impresses the student with the fact that if uncontrolled yawing is prevented by use of the rudder, a spin will not result. The recommended FAA procedure also provides him with the best means of preventing a complete loss of control, such as a spin, in a critical stall situation in any spinnable airplane.

• Operation Raincheck

I have just read the article "Operation Rain Check" in January's FAA *Aviation News*. I have maintained for a long time now that one of the requirements for a private license should be some time spent in a control tower, approach control, and a center. It would make for better pilots and, I believe, it would help reduce controller workload caused by misunderstanding of problems and capabilities.

I would appreciate it if you could let me know when an "Operation Rain Check" will be available in the Northeast so that I can attend.

Brian O'Brien, Jr.
Fabyan, Conn.

No definite arrangements have been made for offering "Operation Rain Check" in FAA's Eastern Region. We suggest you contact Public Affairs Officer, Federal Aviation Administration (EA-5), Building 111, JFK International Airport, Jamaica, N. Y. 11430, in this regard.

• Reader Keeps Old WACs

I can supply the four WAC charts requested by your Las Vegas correspondent in the January FAA *Aviation News*. Please have him (or her) write to me and I will be happy to send them along.

And thanks for your fine magazine which I always enjoy and benefit from.

Catherine J. Truesdell
8501 Casaha Avenue
Canoga Park, Calif. 91306

• High Society

The January 1966 FAA *Aviation News* carried a spectacular photo of the dirigible "Hindenburg" burning at Lakehurst Naval Air Station, New Jersey. The photo was attributed to "The Lighter than Air Society." Do you have their address?

Tom Sheldon
Hometown, Ill.

Photo credit: Lighter-than-Air Society

The "Wing-foot Lighter-than-Air Society" is located at 1210 Massillon Road, Akron, Ohio 44315.

• Now Hear This . . .

Who says a compulsory proximity warning device means complicated electronics?

I have such a device in my car in the form of an ordinary car radio: our local liquor store has an old neon sign which transmits a loud buzzing signal with an active range of about 120 feet, warning me, regardless of the station I am tuned to, to remember certain New Year's Day resolutions. The signal completely fades at 150 feet, but becomes eardrum-shattering at 60 feet or so.

Using similar low-cost components, the industry, I am sure, can come up with a universally acceptable self-contained device that would overcome the limitations of my car-radio, neon-sign combination.

Amityville, N. Y.

• Gold Seal Sought

I am an instructor who has met all the requirements for a Gold Seal Instructor Rating except attending a Flight Instructor Clinic. To my knowledge there has been none within a several hundred mile radius of here.

Moreover, I've heard that FAA is prohibited from sponsoring a clinic. So, if it is a FAA requirement for a Gold Seal rating, why is it that FAA cannot sponsor a clinic?

Carthage, Mo.

FAA does sponsor and conduct flight instructor clinics in some areas. However, it is FAA policy to encourage and assist local organizations such as state aeronautics commissions, national and state aviation organizations and other aviation groups to conduct such clinics.

In your vicinity, the AOPA Foundation has a flight instructor clinic scheduled in St. Louis, Mo., on October 8.

FAA flight instructor clinics are scheduled in Little Rock, Ark., on September 10.

You may obtain more detailed information on these clinics by contacting local airports in the locations mentioned.

• The Great Flying Boat Controversy

I note with great interest the Curtiss *Trimotor* Flying Boat photograph. Of *special* interest is the novel cooling system for the pusher engine.

The inclusion of a center nacelle power plant driving a two-bladed propeller for the purpose of providing an augmented blast of cooling air for the pusher engine is remarkable in its innovation and is no doubt a unique solution to the long-standing technical problem of cooling pusher configured aircraft engines.

Howard B. Johnson
Washington, D. C.

• Trouble Shooting

I'm not sure which issue it appeared in, but FAA *Aviation News* carried an article about a periodic FAA publication which lists mechanical problems relating to aircraft, engines, and components.

I think the subscription fee was two or three dollars. How much does it actually cost, and where do I send my money?

Overland Park, Kan.

The article, "Clearing House for Aircraft Troubles," appeared in the November 1967 Aviation News. The publication, "General Aviation Inspection Aids," is issued in 11 monthly installments and one annual summary. The package costs $1.50 annually ($2.00 abroad). Send check or money order to the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

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CUL—Culiacan
CUU—Chihuahua
CVM—Ciudad Victoria
CZM—Cozumel
DGO—Durango
ENS—Ensenada
GDL—Guadalajara
HMO—Hermosillo
IZT—Ixtepec
LAP—La Paz
LEO—Leon
LMM—Los Mochis
MAT—Matamoros
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MOV—Monclova
MTY—Monterrey
MXL—Mexicali
MZL—Manzanillo
MZT—Mazatlan
NCG—Nuevo Casas Grandes
NLD—Nuevo Laredo
NOG—Nogales
PNG—Piedras Negras
PVR—Puerto Vallarta
QET—Queretaro
REY—Reynosa
SRL—Santa Rosalia
TAP—Tapachula
TAM—Tampico
TIJ—Tijuana
TRC—Torreon
TUX—Tuxpan
VER—Veracruz

Legend

- Paved Roads
- Super Hwys
- Airports of Entry/Dep.
- Landing Rights Airports
- Other Airports
- FAA Flight Service Station